RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: _10/519,812_

Source: _Pq/10_

Date Processed by STIC: _1/12/05_

ENTERED

PCT

RAW SEQUENCE LISTING   DATE: 01/12/2005
PATENT APPLICATION: US/10/519,812   TIME: 10:05:30

Input Set : **A:\Sequence Listing.txt**
Output Set: **N:\CRF4\01122005\J519812.raw**

```
 3 <110> APPLICANT: Byrne, Barry J.
 4        Mah, Cathryn S.
 6 <120> TITLE OF INVENTION: rAAV COMPOSITIONS AND METHODS FOR DELIVERY OF HUMAN FACTOR
VII
 7        POLYPEPTIDES AND TREATMENT OF HEMOPHILIA A
 9 <130> FILE REFERENCE: 4300.014300
C--> 11 <140> CURRENT APPLICATION NUMBER: US/10/519,812
12 <141> CURRENT FILING DATE: 2004-12-28
14 <150> PRIOR APPLICATION NUMBER: PCT/US03/20756
15 <151> PRIOR FILING DATE: 2003-06-30
17 <150> PRIOR APPLICATION NUMBER: 60/392,725
18 <151> PRIOR FILING DATE: 2002-06-28
20 <160> NUMBER OF SEQ ID NOS: 17
22 <170> SOFTWARE: PatentIn version 3.2
24 <210> SEQ ID NO: 1
25 <211> LENGTH: 1440
26 <212> TYPE: DNA
27 <213> ORGANISM: Homo sapiens
29 <400> SEQUENCE: 1
30 tcaacaggca ggggcagcac tgcagagatt tcatcatggt ctcccaggcc ctcaggctcc      60
32 tctgccttct gcttgggctt cagggctgcc tggctgcagg cggggtcgct aaggcctcag     120
34 gaggagaaac acgggacatg ccgtggaagc cggggcctca cagagtcttc gtaacccagg     180
36 aggaagccca cggcgtcctg caccggcgcc ggcgcgccaa cgcgttcctg gaggagctgc     240
38 ggccgggctc cctggagagg gagtgcaagg aggagcagtg ctccttcgag gaggcccggg     300
40 agatcttcaa ggacgcggag aggacgaagc tgttctggat ttcttacagt gatggggacc     360
42 agtgtgcctc aagtccatgc cagaatgggg gctcctgcaa ggaccagctc cagtcctata     420
44 tctgcttctg cctccctgcc ttcgagggcc ggaactgtga cgcacaag gatgaccagc     480
46 tgatctgtgt gaacgagaac ggcggctgtg agcagtactg cagtgaccac acgggcacca     540
48 agcgctcctg tcggtgccac gaggggtact ctctgctggc agacggggtg tcctgcacac     600
50 ccacagttga atatccatgt ggaaaaatac ctattctaga aaaaagaaat gccagcaaac     660
52 cccaaggccg aattgtgggg ggcaaggtgt gccccaaagg ggagtgtcca tggcaggtcc     720
54 tgttgttggt gaatggagct cagttgtgtg ggggaccct gatcaacacc atctgggtgg     780
56 tctccgcggc ccactgtttc gacaaaatca agaactggag gaacctgatc gcggtgctgg     840
58 gcgagcacga cctcagcgag cacgacgggg atgagcagag ccggcgggtg cgcaggtca     900
60 tcatccccag cacgtacgtc ccgggcacca ccaaccacga catcgcgctg ctccgcctgc     960
62 accagcccgt ggtcctcact gaccatgtgg tgcccctctg cctgcccgaa cggacgttct    1020
64 ctgagaggac gctggccttc gtgcgcttct cattggtcag cggctggggc cagctgctgg    1080
66 accgtggcgc cacggccctg gagctcatgg tgctcaacgt gccccggctg atgacccagg    1140
68 actgcctgca gcagtcacgg aaggtgggag actcccccaaa tatcacggag tacatgttct    1200
70 gtgccggcta ctcggatggc agcaaggact cctgcaaggg ggacagtgga ggcccacatg    1260
72 ccacccacta ccgggggcacg tggtacctga cgggcatcgt cagctggggc cagggctgcg    1320
74 caaccgtggg ccactttggg gtgtacacca gggtctccca gtacatcgag tggctgcaaa    1380
76 agctcatgcg ctcagagcca cgcccaggag tcctcctgcg agccccattt ccctagccca    1440
79 <210> SEQ ID NO: 2
```

```
80 <211> LENGTH: 466
81 <212> TYPE: PRT
82 <213> ORGANISM: Homo sapiens
84 <400> SEQUENCE: 2
86 Met Val Ser Gln Ala Leu Arg Leu Leu Cys Leu Leu Leu Gly Leu Gln
87 1               5                   10                  15
90 Gly Cys Leu Ala Ala Gly Gly Val Ala Lys Ala Ser Gly Gly Glu Thr
91              20                  25                  30
94 Arg Asp Met Pro Trp Lys Pro Gly Pro His Arg Val Phe Val Thr Gln
95          35                  40                  45
98 Glu Glu Ala His Gly Val Leu His Arg Arg Arg Arg Ala Asn Ala Phe
99      50                  55                  60
102 Leu Glu Glu Leu Arg Pro Gly Ser Leu Glu Arg Glu Cys Lys Glu Glu
103 65                  70                  75                  80
106 Gln Cys Ser Phe Glu Glu Ala Arg Glu Ile Phe Lys Asp Ala Glu Arg
107              85                  90                  95
110 Thr Lys Leu Phe Trp Ile Ser Tyr Ser Asp Gly Asp Gln Cys Ala Ser
111              100                 105                 110
114 Ser Pro Cys Gln Asn Gly Gly Ser Cys Lys Asp Gln Leu Gln Ser Tyr
115          115                 120                 125
118 Ile Cys Phe Cys Leu Pro Ala Phe Glu Gly Arg Asn Cys Glu Thr His
119     130                 135                 140
122 Lys Asp Asp Gln Leu Ile Cys Val Asn Glu Asn Gly Gly Cys Glu Gln
123 145                 150                 155                 160
126 Tyr Cys Ser Asp His Thr Gly Thr Lys Arg Ser Cys Arg Cys His Glu
127              165                 170                 175
130 Gly Tyr Ser Leu Leu Ala Asp Gly Val Ser Cys Thr Pro Thr Val Glu
131              180                 185                 190
134 Tyr Pro Cys Gly Lys Ile Pro Ile Leu Glu Lys Arg Asn Ala Ser Lys
135          195                 200                 205
138 Pro Gln Gly Arg Ile Val Gly Gly Lys Val Cys Pro Lys Gly Glu Cys
139     210                 215                 220
142 Pro Trp Gln Val Leu Leu Leu Val Asn Gly Ala Gln Leu Cys Gly Gly
143 225                 230                 235                 240
146 Thr Leu Ile Asn Thr Ile Trp Val Val Ser Ala Ala His Cys Phe Asp
147              245                 250                 255
150 Lys Ile Lys Asn Trp Arg Asn Leu Ile Ala Val Leu Gly Glu His Asp
151          260                 265                 270
154 Leu Ser Glu His Asp Gly Asp Glu Gln Ser Arg Arg Val Ala Gln Val
155          275                 280                 285
158 Ile Ile Pro Ser Thr Tyr Val Pro Gly Thr Thr Asn His Asp Ile Ala
159          290                 295                 300
162 Leu Leu Arg Leu His Gln Pro Val Val Leu Thr Asp His Val Val Pro
163 305                 310                 315                 320
166 Leu Cys Leu Pro Glu Arg Thr Phe Ser Glu Arg Thr Leu Ala Phe Val
167              325                 330                 335
170 Arg Phe Ser Leu Val Ser Gly Trp Gly Gln Leu Leu Asp Arg Gly Ala
171              340                 345                 350
174 Thr Ala Leu Glu Leu Met Val Leu Asn Val Pro Arg Leu Met Thr Gln
```

RAW SEQUENCE LISTING   DATE: 01/12/2005
.PATENT APPLICATION: US/10/519,812   TIME: 10:05:30

Input Set : **A:\Sequence Listing.txt**
Output Set: **N:\CRF4\01122005\J519812.raw**

```
175           355                 360                 365
178 Asp Cys Leu Gln Gln Ser Arg Lys Val Gly Asp Ser Pro Asn Ile Thr
179      370                 375                 380
182 Glu Tyr Met Phe Cys Ala Gly Tyr Ser Asp Gly Ser Lys Asp Ser Cys
183 385                 390                 395                 400
186 Lys Gly Asp Ser Gly Gly Pro His Ala Thr His Tyr Arg Gly Thr Trp
187                 405                 410                 415
190 Tyr Leu Thr Gly Ile Val Ser Trp Gly Gln Gly Cys Ala Thr Val Gly
191             420                 425                 430
194 His Phe Gly Val Tyr Thr Arg Val Ser Gln Tyr Ile Glu Trp Leu Gln
195         435                 440                 445
198 Lys Leu Met Arg Ser Glu Pro Arg Pro Gly Val Leu Leu Arg Ala Pro
199      450                 455                 460
202 Phe Pro
203 465
206 <210> SEQ ID NO: 3
207 <211> LENGTH: 1401
208 <212> TYPE: DNA
209 <213> ORGANISM: Homo sapiens
211 <400> SEQUENCE: 3
212 atggtctccc aggccctcag gctcctctgc cttctgcttg ggcttcaggg ctgcctggct      60
214 gcaggcgggg tcgctaaggc ctcaggagga gaaacacggg acatgccgtg gaagccgggg     120
216 cctcacagag tcttcgtaac ccaggaggaa gcccacggcg tcctgcaccg gcgccggcgc     180
218 gccaacgcgt tcctggagga gctgcggccg ggctccctgg agagggagtg caaggaggag     240
220 cagtgctcct tcgaggaggc ccgggagatc ttcaaggacg cggagaggac gaagctgttc     300
222 tggatttctt acagtgatgg ggaccagtgt gcctcaagtc catgccagaa tggggggctcc     360
224 tgcaaggacc agctccagtc ctatatctgc ttctgcctcc ctgccttcga gggccggaac     420
226 tgtgagacgc acaaggatga ccagctgatc tgtgtgaacg agaacggcgg ctgtgagcag     480
228 tactgcagtg accacacggg caccaagcgc tcctgtcggt gccacgaggg gtactctctg     540
230 ctggcagacg gggtgtcctg cacacccaca gttgaatatc catgtggaaa aatacctatt     600
232 ctagaaaaaa gaaatgccag caaaccccaa ggccgaattg tggggggcaa ggtgtgcccc     660
234 aaaggggagt gtccatggca ggtcctgttg ttggtgaatg gagctcagtt gtgtgggggg     720
236 accctgatca acaccatctg ggtggtctcc gcggcccact gtttcgacaa aatcaagaac     780
238 tggaggaacc tgatcgcggt gctgggcgag cacgacctca gcgagcacga cggggatgag     840
240 cagagccggc gggtggcgca ggtcatcatc cccagcacgt acgtcccggg caccaccaac     900
242 cacgacatcg cgctgctccg cctgcaccag cccgtggtcc tcactgacca tgtggtgccc     960
244 ctctgcctgc ccgaacggac gttctctgag aggacgctgg ccttcgtgcg cttctcattg    1020
246 gtcagcggct ggggccagct gctggaccgt ggcgccacgg ccctggagct catggtgctc    1080
248 aacgtgcccc ggctgatgac ccaggactgc ctgcagcagt cacggaaggt gggagactcc    1140
250 ccaaatatca cggagtacat gttctgtgcc ggctactcgg atggcagcaa ggactcctgc    1200
252 aaggggggaca gtggaggccc acatgccacc cactaccggg gcacgtggta cctgacgggc    1260
254 atcgtcagct ggggccaggg ctgcgcaacc gtgggccact ttgggggtgta caccagggtc    1320
256 tcccagtaca tcgagtggct gcaaaagctc atgcgctcag agccacgccc aggagtcctc    1380
258 ctgcgagccc catttcccta g                                             1401
261 <210> SEQ ID NO: 4
262 <211> LENGTH: 466
263 <212> TYPE: PRT
264 <213> ORGANISM: Homo sapiens
266 <400> SEQUENCE: 4
```

```
268 Met Val Ser Gln Ala Leu Arg Leu Leu Cys Leu Leu Leu Gly Leu Gln
269 1             -   5                10              15      - -
272 Gly Cys Leu Ala Ala Gly Gly Val Ala Lys Ala Ser Gly Gly Glu Thr
273             20              25              30
276 Arg Asp Met Pro Trp Lys Pro Gly Pro His Arg Val Phe Val Thr Gln
277         35              40              45
280 Glu Glu Ala His Gly Val Leu His Arg Arg Arg Ala Asn Ala Phe
281     50              55              60
284 Leu Glu Glu Leu Arg Pro Gly Ser Leu Glu Arg Glu Cys Lys Glu Glu
285 65              70              75              80
288 Gln Cys Ser Phe Glu Glu Ala Arg Glu Ile Phe Lys Asp Ala Glu Arg
289             85              90              95
292 Thr Lys Leu Phe Trp Ile Ser Tyr Ser Asp Gly Asp Gln Cys Ala Ser
293             100             105             110
296 Ser Pro Cys Gln Asn Gly Gly Ser Cys Lys Asp Gln Leu Gln Ser Tyr
297         115             120             125
300 Ile Cys Phe Cys Leu Pro Ala Phe Glu Gly Arg Asn Cys Glu Thr His
301     130             135             140
304 Lys Asp Asp Gln Leu Ile Cys Val Asn Glu Asn Gly Gly Cys Glu Gln
305 145             150             155             160
308 Tyr Cys Ser Asp His Thr Gly Thr Lys Arg Ser Cys Arg Cys His Glu
309             165             170             175
312 Gly Tyr Ser Leu Leu Ala Asp Gly Val Ser Cys Thr Pro Thr Val Glu
313             180             185             190
316 Tyr Pro Cys Gly Lys Ile Pro Ile Leu Glu Lys Arg Asn Ala Ser Lys
317         195             200             205
320 Pro Gln Gly Arg Ile Val Gly Gly Lys Val Cys Pro Lys Gly Glu Cys
321     210             215             220
324 Pro Trp Gln Val Leu Leu Leu Val Asn Gly Ala Gln Leu Cys Gly Gly
325 225             230             235             240
328 Thr Leu Ile Asn Thr Ile Trp Val Val Ser Ala Ala His Cys Phe Asp
329             245             250             255
332 Lys Ile Lys Asn Trp Arg Asn Leu Ile Ala Val Leu Gly Glu His Asp
333             260             265             270
336 Leu Ser Glu His Asp Gly Asp Glu Gln Ser Arg Arg Val Ala Gln Val
337         275             280             285
340 Ile Ile Pro Ser Thr Tyr Val Pro Gly Thr Thr Asn His Asp Ile Ala
341     290             295             300
344 Leu Leu Arg Leu His Gln Pro Val Val Leu Thr Asp His Val Val Pro
345 305             310             315             320
348 Leu Cys Leu Pro Glu Arg Thr Phe Ser Glu Arg Thr Leu Ala Phe Val
349             325             330             335
352 Arg Phe Ser Leu Val Ser Gly Trp Gly Gln Leu Leu Asp Arg Gly Ala
353             340             345             350
356 Thr Ala Leu Glu Leu Met Val Leu Asn Val Pro Arg Leu Met Thr Gln
357         355             360             365
360 Asp Cys Leu Gln Gln Ser Arg Lys Val Gly Asp Ser Pro Asn Ile Thr
361     370             375             380
364 Glu Tyr Met Phe Cys Ala Gly Tyr Ser Asp Gly Ser Lys Asp Ser Cys
```

```
365 385                    390                    395                    400
368 Lys Gly Asp Ser Gly Gly Pro His Ala Thr His Tyr Arg Gly Thr Trp
369              405                410                415
372 Tyr Leu Thr Gly Ile Val Ser Trp Gly Gln Gly Cys Ala Thr Val Gly
373              420                425                430
376 His Phe Gly Val Tyr Thr Arg Val Ser Gln Tyr Ile Glu Trp Leu Gln
377          435                440                445
380 Lys Leu Met Arg Ser Glu Pro Arg Pro Gly Val Leu Leu Arg Ala Pro
381      450                455                460
384 Phe Pro
385 465
388 <210> SEQ ID NO: 5
389 <211> LENGTH: 1335
390 <212> TYPE: DNA
391 <213> ORGANISM: Homo sapiens
393 <400> SEQUENCE: 5
394 atggtctccc aggccctcag gctcctctgc cttctgcttg ggcttcaggg ctgcctggct     60
396 gcagtcttcg taacccagga ggaagcccac ggcgtcctgc accggcgccg gcgcgccaac    120
398 gcgttcctgg aggagctgcg gccgggctcc ctggagaggg agtgcaagga ggagcagtgc    180
400 tccttcgagg aggcccggga gatcttcaag gacgcggaga ggacgaagct gttctggatt    240
402 tcttacagtg atggggacca gtgtgcctca agtccatgcc agaatggggg ctcctgcaag    300
404 gaccagctcc agtcctatat ctgcttctgc ctccctgcct tcgagggccg gaactgtgag    360
406 acgcacaagg atgaccagct gatctgtgtg aacgagaacg gcggctgtga gcagtactgc    420
408 agtgaccaca cgggcaccaa gcgctcctgt cggtgccacg aggggtactc tctgctggca    480
410 gacggggtgt cctgcacacc cacagttgaa tatccatgtg gaaaatacc tattctagaa     540
412 aaaagaaatg ccagcaaacc ccaaggccga attgtggggg gcaaggtgtg ccccaaaggg    600
414 gagtgtccat ggcaggtcct gttgttggtg aatggagctc agttgtgtgg ggggaccctg    660
416 atcaacacca tctgggtggt ctccgcggcc cactgtttcg acaaaatcaa gaactggagg    720
418 aacctgatcg cggtgctggg cgagcacgac ctcagcgagc acgacgggga tgagcagagc    780
420 cggcgggtgg cgcaggtcat catccccagc acgtacgtcc cgggcaccac caaccacgac    840
422 atcgcgctgc tccgcctgca ccagcccgtg gtcctcactg accatgtggt gcccctctgc    900
424 ctgcccgaac ggacgttctc tgagaggacg ctggccttcg tgcgcttctc attggtcagc    960
426 ggctggggcc agctgctgga ccgtggcgcc acggccctgg agctcatggt gctcaacgtg   1020
428 ccccggctga tgacccagga ctgcctgcag cagtcacgga aggtgggaga ctccccaaat   1080
430 atcacggagt acatgttctg tgccggctac tcggatggca gcaaggactc ctgcaagggg   1140
432 gacagtggag ccccacatgc cacccactac cggggcacgt ggtacctgac gggcatcgtc   1200
434 agctggggcc agggctgcgc aaccgtgggc cactttgggg tgtacaccag ggtctcccag   1260
436 tacatcgagt ggctgcaaaa gctcatgcgc tcagagccac gcccaggagt cctcctgcga   1320
438 gccccatttc cctag                                                   1335
441 <210> SEQ ID NO: 6
442 <211> LENGTH: 444
443 <212> TYPE: PRT
444 <213> ORGANISM: Homo sapiens
446 <400> SEQUENCE: 6
448 Met Val Ser Gln Ala Leu Arg Leu Leu Cys Leu Leu Leu Gly Leu Gln
449 1              5                  10                 15
452 Gly Cys Leu Ala Ala Val Phe Val Thr Gln Glu Glu Ala His Gly Val
453              20                 25                 30
456 Leu His Arg Arg Arg Arg Ala Asn Ala Phe Leu Glu Glu Leu Arg Pro
```

VERIFICATION SUMMARY　　　　　　DATE: 01/12/2005
PATENT APPLICATION:　**US/10/519,812**　　TIME: 10:05:31

Input Set : **A:\Sequence Listing.txt**
Output Set: **N:\CRF4\01122005\J519812.raw**

L:11 M:270 C: Current Application Number differs, Replaced Current Application Number